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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/660,634

09/12/2003

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03/30/2009

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EXAMINER

JAIN, RAJ K

ART UNIT

PAPER NUMBER

2416

NOTIFICATION DATE

DELIVERY MODE

03/30/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/660,634 | Applicant(s) OKSANEN ET AL. | |
| | Examiner RAJ JAIN | Art Unit 2416 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 28-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 28-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/13/09</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

General Remarks

Applicant's arguments, filed January 6, 2009, with respect to claims 1-22 and 28-30 have been fully considered and are persuasive. The Election/Restriction requirement has been withdrawn.

Claim Objections

Claim 14 is objected to because of the following informalities: Delete in item b the term "significantly" as it does not limit the scope of the claim and replace with another appropriate term that correctly defines the claim as intended. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 14, and 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.

Regarding claim(s) 1, 14 and 28, the subject claims recite here in part "...a low power, low data rate communication link...." The specification fails to disclose a low data rate communication link. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-21, and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miao (USP 7,046,716 B1) in view of Salokannel et al (US 2005/0058107 A1).

Regarding claims 1, 14, 28 and 30 Miao discloses a method of ultra-fast downloading of data in a mobile environment (see abstract), comprising:

a) establishing a first wireless low-power low data rate communication link with another device (see Fig. 1, 6, col 4 lines 52-67, a low power communication is established for example indoor communications via the dual mode UWB 100 transceiver for RF communications having low transmission data rate with low power to another device, see also col 3 lines 18-20);

b) establishing a second higher data rate wireless communication link with the another device (see abstract, Figs. 1, 6 col 4 lines 52-67, the higher data rate communication is with the UWB transceivers for outdoors col 2 lines 40-52; col 3 lines 17-24).

Miao fails to disclose controlling the second wireless communication link via the first wireless communication, wherein the first wireless communication link frees the second wireless communication link from link control overhead.

Salokannel discloses controlling the second wireless communication link via the first wireless communication, wherein the first wireless communication link frees the second wireless communication link from link control overhead (Fig. 1, Paras 16, 19, 24 and 108 control data is transmitted by second link 140 between devices 110 and 120).

The use of a separate communications link for control overhead allows for improved data throughput in the freed communications link.

Thus it would have been obvious at the time the invention was made to incorporate the teachings of Salokannel within Miao thus enhancing data throughput performance between communicating devices of interest.

Regarding claims 3, 10 and 19, Miao discloses a method and apparatus of duplex communication in a mobile environment (see abstract and Fig. 1), comprising:

establishing a first wireless low-power low data rate communication link with another device (see Fig. 1, 6, col 4 lines 52-67, a low power communication is established for example indoor communications via the dual mode UWB 100 transceiver for RF communications having low transmission data rate with low power to another device, see also col 3 lines 18-20);

establishing a second higher data rate wireless communication link with the another device (see abstract, Figs. 1, 6 col 4 lines 52-67, the higher data rate communication is with the UWB transceivers for outdoors col 2 lines 40-52; col 3 lines 17-24).

activating the mobile device UWB transmitter for transmitting data as modulated pulse trains to the base device receiver (see Fig.1, col 4 lines 53-67, the mobile device 114 transmits digital data pulses to the network 122, one skilled in the art appreciates that UWB is a wireless technology that broadcasts digital pulses that are timed very precisely across a very wide spectrum.);

demodulating the mobile device UWB transmitter pulse trains in the base device UWB receiver (Fig. 1, 10, 122 demodulates the pulse trains according to I/Q demodulation reference 1030.);

transmitting from the base device UWB transmitter to the mobile device UWB receiver, modulated pulse trains of the base device UWB transmitter interleaved between the modulated pulse trains of the mobile device UWB transmitter (see Figs. 1 and 2, col 5 lines 12-40, the block interleaver 214 is used to interleave modulated pulse trains of the base device and mobile device before being transmitted by the base device.); and

demodulating the modulated pulse trains of the base device UWB transmitter in the mobile device UWB receiver (see Figs 1 and 2, the multi-carrier 114 demodulates the incoming base device UWB signal, see col 4 lines 55-67.).

Miao fails to disclose removable memory modules and exchanging of UWB parameters between devices via the low power communication.

Salokannel discloses removable memory modules and exchanging of UWB parameters between devices via the low power communication (Paras 3, 56 and 106).

A memory storage device and the capability to exchange UWB parameters allows for networking devices to negotiate appropriate operating parameter and therefore increasing the pulse frequency between the devices. A memory device allows for increased storage of parameters and other data as necessary outside of the networking components. Thus it would have been obvious at the time the invention was made to incorporate the teachings of Salokannel within Miao so to improve and enhance UWB network performance by increasing the transmission and storage capabilities of devices as desired.

Regarding claims 2 and 29, Miao discloses second wireless communication link based on information communicated via the first wireless communication link (col 5 lines 1-20).

Regarding claim(s) 4, Salokannel discloses transmitting data from the base device to the removable memory module via the ultra wideband transmission link for storage in the integrated memories of the removable memory module (Paras 3, 56 and 106); forwarding the transmitted data from the removable memory module to the mobile device memories through a connector and a bus interface (Fig. 1, interface is inherent within devices 110 and 120); and processing the transmitted data in the mobile device (Fig. 3 processing of data ref. 310).

A memory storage device and the capability to exchange UWB parameters allows for networking devices to negotiate appropriate operating parameter and therefore increasing the pulse frequency between the devices. A memory device allows for increased storage of parameters and other data as necessary outside of the networking components. Thus it would have been obvious at the time the invention was made to incorporate the teachings of Salokannel within Miao so to improve and enhance UWB network performance by increasing the transmission and storage capabilities of devices as desired.

Regarding claim 5 & 16, Salokannel discloses the use of acknowledgement messages (para 17). Reasons for combining same as for claims 1, 3 above.

Regarding claim(s) 6, Salokannel discloses a pulse generator and thus would inherently have a pulse modulator/demodulator accordingly (paras 10,11 and 53).

Reasons for combining same as for claims 1, 3 above.

Regarding claim(s) 7, 12 and 13, Salokannel discloses a memory for storage and removable (Fig. 3, ref 312, paras 3, 56 and 106). Reasons for combining same as for claims 1, 3 above.

Regarding claim(s) 8, Mia discloses error correction coding prior to transmitting data (col 3 lines 1-15).

Regarding claim(s) 9, Salokannel discloses parity checking (para 81). Reasons for combining same as for claims 1, 3 above.

Regarding claim 11, Salokannel discloses Bluetooth connection (Fig. 1, para 15 and 21), reasons for combining same as for claim 10.

Regarding claim 15, Miao discloses a second radio link serves as a direct data channel for actual data payload (see Fig.1, abstract).

Regarding claim 17, Miao discloses a direct data channel eliminates time-consuming adjustments, such as, transceiver/receiver switching where possible loss of data occurs (see Figs 1, 6, abstract).

Regarding claim 18, Miao discloses means including a high capacity memory and a UWB transceiver attached to a terminal for capture of data at high speed and transfer to a utilization device at lower speeds (Fig. 2, discloses a dual mode transmitter which inherently incorporates a high capacity memory 240 and transference to appropriate devices via 224).

Regarding claim(s) 20, Miao discloses a UWB transmitter 114 (Fig. 1) for transmitting data over a UWB communication link (link from 112 to 122).

Regarding claim(s) 21, Miao discloses a mobile device 114 (Fig. 1) and network interconnect 122 inherently have display devices connected to appropriate control circuitry.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miao (USP 7,046,716 B1) in view of Salokannel (US 2005/0058107 A1), further in view of Woolgar et al (US 7,135,985 B2).

Miao and Salokannel fail to disclose Irda, Hiperlan, Zigbee.

Woolgarv discloses Bluetooth, Irda, Hiperlan, Zigbee (see col 3 lines 1-20). UWB use in Bluetooth, Irda, Hiperlan, Zigbee, 802.11, WLAN allows for adapting to differences in various radio protocols to be utilized via the UWB technology and therefore it would have been obvious to incorporate the teachings of Woolgrav within Miao and Salokannel so as to broaden the spectrum of UWB use in different protocol groups.

Response to Arguments

Applicant's arguments with respect to claims 1-22, 28-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAJ JAIN whose telephone number is (571)272-3145. The examiner can normally be reached on M-TH.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Raj K. Jain/

Examiner, Art Unit 2416